

Students' Perceptions of Fairness Following an Academic Strike

Lisa M. Fiksenbaum
Christine M. Wickens
Esther R. Greenglass
David L. Wiesenthal
York University

ABSTRACT

Rising rates of unionization in university settings suggest that campus labour disputes are likely to become an increasingly relevant issue. The research question in the current analysis asked which factors contributed to students' perception of fair treatment following a university labour disruption. A longitudinal survey of students' experiences was conducted before, during, and following a 12-week strike by teaching assistants and contract faculty at a large Canadian university. Hierarchical regression analysis revealed that students' pre-strike satisfaction with their academic program contributed to a perception of post-strike fairness. The more students' plans had been affected by the strike, the greater the reduction in perceived fairness. Post-strike fairness increased significantly the more students were satisfied with course remediation and the more they felt they had a faculty member to turn to following the strike. Interestingly, neither students' levels of financial concern, nor their attitudes toward the strike, predicted perceived fairness. Implications for addressing students' concerns in the wake of an academic labour dispute are discussed.

RÉSUMÉ

Les taux croissants de syndicalisation dans l'environnement universitaire conduisent à penser que les conflits de travail sur les campus vont devenir un problème de plus en plus important. Le sujet de recherche dans l'analyse en cours est de voir quels facteurs contribuent à la perception par les étudiants

d'un juste traitement à la suite d'une perturbation causée par un conflit de travail. Une étude longitudinale des expériences des étudiants a été réalisée, avant, pendant et à la suite d'une grève de 12 semaines par les démonstrateurs (teaching assistants) et chargés de cours d'une grande université canadienne. Une analyse de régression hiérarchique montra que la satisfaction par les étudiants de leur programme académique avant la grève, contribuait à la perception d'équité après la grève. La perception d'équité post-grève était d'autant plus réduite que les plans de étudiants avaient été affectés par la grève. Le sentiment d'équité post-grève augmentait d'autant plus que les étudiants étaient satisfaits des moyens de pallier aux cours et qu'ils avaient un professeur à qui s'adresser après la grève. Il est intéressant de noter que ni le niveau des préoccupations financières des étudiants, ni leur attitude envers la grève ne permettrait de prédire leur perception de l'équité. Les implications concernant les préoccupations des étudiants à la suite d'un conflit de travail universitaire, furent discutées.

Unionism in North America has taken many forms over the last century, and it continues to renew and reshape itself in response to changing societal circumstances (Kumar & Schenk, 2006). One of the primary missions of labour unions continues to be the improvement of working conditions and, consequently, the quality of life for union members. One means of achieving this mandate is through collective bargaining with the employer. When there is a breakdown in the collective bargaining process, the resulting strikes or lockouts are a significant source of stress for management, employees, and their families (Barling & Milligan, 1987; Bluen & Barling, 1988; Fowler, Gudmundsson, & Whicker, 2009; MacBride, Lancee, & Freeman, 1981; Vispo & Shine, 1985). Members of management may face longer workdays as they perform the duties of striking or locked-out employees, or they may encounter altercations as they cross picket lines. Beyond the obvious loss of income faced by the striking or locked-out party, employees may also experience a sense of powerlessness, a stressful change in routine from the regular workday to a picket line or stay-at-home schedule, along with tension associated with the opposing positions taken by co-workers. Thus, both parties to a labour dispute are subject to mentally, emotionally, and physically taxing conditions.

In a free market economy, labour disputes between private companies and their employees are often contained, affecting only the company's management, shareholders, and employees. Although inconvenienced by the dispute, customers of the company are free to take their business elsewhere. However, for labour disputes that occur in government or in public institutions, there is often a third party to the dispute. In a municipal government strike, for example, citizens lose access to public services (e.g., sanitation, building permits and inspections, recreation, and so on) when there is no alternative provider. Often, the discontent of the citizenry can influence the outcome of the dispute. If the citizenry expresses discontent with how government officials are handling the dispute, the politicians risk losing votes in subsequent elections. If the citizenry expresses discontent with the union position and support for government handling of the dispute, management is strengthened in negotiations.

Similar to a municipal government strike, an academic labour disruption is another troubling case involving a third party. When university faculty¹ or teaching assistants strike or are locked out by university administration, students are the third party to the dispute. Much like the citizenry in a government labour dispute, students caught in a university labour disruption face delays in, and threats to the quality of, their education. Often it is not possible for them to transfer to another academic institution in the interim. The lack of control over outcomes experienced by students, coupled with the uncertainty regarding the length of the labour disruption, may be a significant predictor of distress, according to stress theory (Dickerson & Kemeny, 2004; Thompson, 1981). Further, unlike the citizenry, who can express their discontent with the handling of the dispute in the next government election, students have little influence over the outcome of the dispute.

Wickens (2011) noted a paucity of research examining the impact of an academic labour dispute, and reviewed the limited research findings concerning the psychosocial impact of an academic work stoppage on students. Wickens noted an overall negative psychosocial effect on students, citing research conducted during or after various university strikes by faculty and/or teaching assistants. For example, Albas and Albas (2000) asked students affected by the 1995 University of Manitoba faculty strike to keep written logs throughout the labour disruption detailing how the dispute affected their thoughts, feelings, and behaviours. Students were also interviewed before, during, and after the three-week strike. Students' initial reactions to the dispute included gratification for the opportunity to catch up on their studies by completing assignments and studying for examinations. This enthusiasm was short-lived and replaced by confusion, apathy, and lack of motivation. Eventually, students began to express frustration and anger at their perceived victimization.

Anger was also expressed by students surveyed during and after Toronto's York University faculty strike in 1997 and teaching assistant and contract faculty strike in 2000 (Grayson, 1997a, 1997b, 1997c, 1999; Greenglass, Fiksenbaum, Goldstein, & Desiato, 2002; Wickens, Fiksenbaum, Greenglass, & Wiesenthal, 2006). These students expressed feelings of anxiety concerning the financial implications of the strikes and their powerlessness over the situation. Following the strike in 2000, survey research indicated that students had abandoned their daily routines during the labour dispute, spending more time with friends, sleeping late, and increasing their consumption of alcoholic beverages (Wickens et al., 2006). Academic strikes have also been found to influence student attitudes. Undergraduates' satisfaction with their academic programs, opinions about faculty and staff, and overall ratings of the university have been found to decline in the aftermath of an academic labour strike (Amos, Day, & Power, 1993; Grayson, 1997b, 1997c; Wickens et al., 2006; Wickens, Fiksenbaum, Wiesenthal, & Greenglass, 2012), although some of these attitudes can be reversed if students are accommodated in the post-strike period (Grayson, 1997c) or through student turnover in the years following the strike (Amos et al., 1993).

Given the potential adverse effects of university strikes on students' attitudes, emotions, and behaviours, it is important to develop strategies to help minimize this impact. The university administration is in a unique position to enact policies and initiatives before, during, and after a work stoppage that will help students to cope. Therefore, it is imperative that researchers identify which attitudes, emotions, and behaviours can be influenced by administrative policy during a strike, and how best to achieve that positive influence.

Perceived Fairness

A construct that may be particularly important to our understanding of the student experience of an academic strike, and as a potential target of positive administrative influence in response to a strike, is *perceived fairness*. This construct is related to several other well-studied psychological constructs found throughout the scientific literature, including the concepts of *equity* from social-exchange theory (Adams, 1965; Blau, 1964), *organizational justice* from industrial/organizational psychology (Greenberg, 1987), and *belief-in-a-just-world* from personality psychology's just world hypothesis (Lerner, 1980). The overarching framework suggests that there is an association between the extent to which people feel that an event, decision, or policy is unfair, unjust, or inequitable and the extent to which they respond negatively to that event, decision, or policy. For example, when employees perceive fairness in work-related decisions, there is a related increase in the perception of organizational support, which in turn leads to increased motivation and commitment to the organization among employees (Wayne, Shore, Bommer, & Tetrick, 2002). Likewise, when a motorist believes that another motorist's offensive roadway behaviour (e.g., cutting off another vehicle) was controllable, intentional, and unjust, the victim-driver experiences more anger and is more likely to respond aggressively (Roseborough, Wiesenthal, Flett, & Cribbie, 2011; Wickens, Wiesenthal, Flora, & Flett, 2011).

Although perceptions of fairness have rarely been assessed in the context of an academic labour disruption, it is likely that students' perceptions in a work stoppage are also likely to influence their cognitive, affective, and behavioural responses to the situation. There is evidence to suggest that students' perception of unfair treatment is both an indicator of student stress *during* a labour strike and a predictor of stress *following* a labour strike. In post-strike studies of the 1997 and 2000 strikes at York University, Greenglass et al. (2002) and Wickens et al. (2006) found that the more students' plans for employment, future studies, graduation, and travel had been affected by the strike, the more students perceived themselves as having been treated unfairly during the strike. Moreover, the perception of unfair treatment significantly predicted higher levels of student anger following the labour dispute. In light of these findings, perceived fair treatment in the aftermath of an academic labour dispute should be a primary concern of the university administration, and it may represent an excellent means by which the administration can help to alleviate the potentially negative impact of academic work stoppages on students.

The Current Study

The current study surveyed students before, during, and after a 12-week strike at York University, a large urban Canadian university. The strike began on November 6, 2008, when teaching assistants and contract faculty initiated a legal work stoppage, organizing picket lines at all entrances to the campus. According to the union representing the teaching assistants and contract faculty, the primary issues of contention were wages and job security (Canadian Union of Public Employees 3903, 2008a, 2008b). The university administration cancelled all classes for 50,000 students for the duration of the strike. Early negotiations indicated a clear divide between the union and administration. Throughout the strike, student groups set up online Facebook pages and websites to express their discontent and exchange information. On December 2, students rallied outside the provin-

cial legislature, requesting that the government legislate teaching assistants and contract faculty back to work. In early January 2009, the union voted overwhelmingly to reject the university's latest offer; however, because only a small percentage of the union's members voted, the administration subsequently asked the legislature to force a ratification vote. Again, the union overwhelmingly rejected the offer. Two days later, the provincial government assigned its top mediator to assist with negotiations. After three days of negotiations, the mediator reported that the two sides were still too far apart, and on January 29, the provincial government passed back-to-work legislation, ending the 12-week dispute. Subsequently, the administration developed a remediation plan to facilitate students' return to class. This plan included a rescheduled fall examination period, changes to fall semester course requirements at the option of course directors (e.g., shortened assignments, optional examinations, and so on), cancellation of the winter break, a shortened winter semester, and the extension of the winter semester into the summer term. Students were also given the option of withdrawing from a course without academic penalty and the option to retake the course within the next year free of charge.

RESEARCH QUESTION AND HYPOTHESES

The research question in the current study asked which factors influenced students' experience of the post-strike period. Specifically, the analysis examined variables thought to affect the degree to which students felt they had been treated fairly in the post-strike period of the 2008 labour dispute. The study sought to identify remediation strategies that threatened or helped to improve perceived fairness, and focused on factors that the university administration could implement to minimize the impact of future labour disruptions on students.

Hypothesis 1. Students' satisfaction with their academic programs has been found to decline following an academic labour strike. Satisfaction is correlated with the extent to which students' plans were affected by the strike and the degree to which students perceived fair treatment during the strike (Grayson, 1997b, 1997c; Wickens et al., 2006). Therefore, in the current study, it was hypothesized that the more students were satisfied with their academic program before and during the strike, the more likely they would perceive fair treatment in the period following the strike.

Hypothesis 2. Social support has been found to buffer the impact of many sources of stress and strain (Greenglass, Fiksenbaum, & Burke, 1996). Following the two-month York University faculty strike in 1997, 65% of students stated that they had at least one faculty member to whom they could turn for help. This form of social support was predictive of attitudinal support for the strike itself (Grayson, 1999). Likewise, support (i.e., information, advice, morale boosting) derived from Internet sources was significantly associated with lower feelings of anger following the strike (Greenglass et al., 2002). Therefore, in the current study, it was hypothesized that the more students perceived having a faculty member to turn to for support before, during, and after the strike, the more likely they would perceive fair treatment in the period following the strike.

Hypothesis 3. Student support for a university labour disruption and the involved parties (e.g., striking faculty, university administration) will change throughout the course of the dispute, and can be related to several factors including general union attitudes and the degree of academic difficulties experienced as a result of the dispute (Albas & Albas,

2000; Amos et al., 1993; Grayson, 1997b, 1997c, 1999; Wickens et al., 2012). During the 1997 faculty strike, greater concern about the potential academic impact of the strike was associated with less student support for the strike (Grayson, 1997a). Therefore, in the current study, it was hypothesized that the more students opposed the positions taken by both the union and the administration during the conflict, the less likely they would perceive fair treatment in the period after the strike.

Hypothesis 4. A lengthy academic labour disruption can cause significant economic hardship for students (Grayson, 1997a, 1997b, 1997c, 1999; Wickens et al., 2006). For instance, the two-month faculty strike at York University in 1997 cost full-time undergraduate students approximately C\$12 million because the strike extended classes into the summer when students normally work full-time. During the strike, greater concern about the economic impact of the dispute was associated with less student support for the strike (Grayson, 1999). In the current study, it was hypothesized that the more financial concern students experienced as a result of the strike, the less likely they would perceive fair treatment in the period after the strike.

Hypothesis 5. Previous research has demonstrated that the more students' plans (e.g., summer job, graduation) are affected by a strike, the more anger and anxiety they experience in response to the strike and the less satisfied they become with their academic program (Greenglass et al., 2002; Wickens et al., 2006). Therefore, in the current study, it was hypothesized that the more students' plans had been affected by the strike, the less likely they would perceive fair treatment in the period after the strike.

Hypothesis 6. The implementation of remediation measures by the university administration in the weeks following a labour disruption can significantly reduce the academic and economic impact of the strike and related stress for students (Wickens, 2011). Following the 1997 faculty strike, 40% of students reported requesting one or more special accommodations from professors, and 81% of students reported having their requests granted. Grayson (1997c) surmised that these accommodations buffered the impact of the strike on students. Therefore, in the current study, it was hypothesized that the greater students' satisfaction with remediation immediately following the strike, the more likely they would perceive fair treatment in the period after the strike.

METHOD

Participants

Two recruitment strategies were used for the current study. First, 241 undergraduate students enrolled in a first-year psychology course were recruited through the Undergraduate Research Participant Pool (URPP). These participant-pool students received course credit in exchange for responding to the pre-strike questionnaire (Phase 1 of the study). Participants were offered additional course credit or one ballot in a \$50 cash draw for each subsequent phase of the study in which they participated. Second, experimenters approached undergraduate students in classrooms or in public areas of the campus (e.g., cafeterias, computer laboratories) and invited their participation. These non-participant-pool students were offered one ballot in the \$50 cash draw for each phase of the study in which they participated. Approximately 65% of students who were approached in this manner agreed to participate. An additional 280 participants were recruited us-

ing this method; however, six participants were deleted for not providing an email address, six participants were deleted because they identified themselves as being graduate students, and one participant was deleted for not being a university student. Therefore, 267 participants recruited in public areas of the university responded to the pre-strike questionnaire. Using both recruitment strategies, a total of 508 undergraduate students participated in Phase 1 of the study by completing the pre-strike questionnaire.

Participants were asked to complete two questionnaires during the strike. The first of these questionnaires was sent to participants following the first week of the strike (Phase 2) and the second was sent to participants at the start of the fifth week of the work stoppage (Phase 3). Several students who participated in Phase 1 (before the strike) could not be reached using the email addresses they had provided (two from the participant-pool group, and 11 from the non-participant-pool group). After removing these participants from the calculation, 56% of the participant-pool students and 49% of the non-participant-pool students responded to the Phase 2 questionnaire.² A total of 259 students participated in the second phase of the study.

The second questionnaire sent to participants in the fifth week of the strike constituted Phase 3 of the study. Of the original participant-pool students, 43% responded to the Phase 3 questionnaire; of the original non-participant-pool students, 36% responded. A total of 195 students participated in the third phase of the study.

A final questionnaire (Phase 4) was sent to participants approximately 10 days after back-to-work legislation was passed, ending the 12-week strike. Of the original participant-pool students, 40% participated in the final phase of the study; of the original non-participant-pool students, 29% participated. A total of 170 questionnaires were completed in Phase 4. A summary of the primary events of the 2008 York University strike and all phases of the current study is included in Table 1.

Because of statistical power restrictions, the number of variables included in the current analysis had to be limited; thus, the decision was made to exclude Phase 2 variables from the statistical analysis. Phase 2 was the least theoretically relevant phase of the study because it was conducted only one week after the start of the strike. As a result of this decision, only those students who participated in Phases 1, 3, and 4 of the research were included in the current sample ($n = 118$). This sample included 33 males and 85 females. A majority of students (52%) were in their first year of study, which is not surprising given that the URPP is a program for first-year introductory psychology students only. Of the remaining participants, 14% were in their second year, 9% were in their third year, 20% were in their fourth year, and 4% were in their fifth year of study. A comparison of the students recruited through the URPP versus those students who were approached in person revealed that the URPP participants were in an earlier year of study ($t(95.62) = 5.93, p < .001$) and were less likely to be in their graduating year ($\chi^2(1) = 16.42, p < .001$). Given that the URPP is a program for introductory psychology students, these differences were expected. There were no other demographic differences between the two groups, nor any differences in their scores on the dependent or independent variables.

Strength and Limitation of the Design

The current study's strength lies in its longitudinal design: students were surveyed before, during, and after the 2008 labour dispute, and variables from various phases of

Table 1.

Timeline of the 2008 York University Strike and Phases of the Current Study

Dates	Phase of study
Oct. 29–Nov. 4, 2008	Participants recruited to complete Phase 1 (pre-strike) questionnaire.
Nov. 6, 2008	Union representing teaching assistants and contract faculty goes on strike, leaving 50,000 students out of class.
Nov. 12 and 13, 2008	Link for Phase 2 online questionnaire emailed to participants.
Nov. 23, 2008	Phase 2 reminder emailed to participants.
Dec. 2, 2008	Undergraduates rally at provincial legislature for end to strike.
Dec. 7, 2008	Link for Phase 3 online questionnaire emailed to participants.
Dec. 11, 2008	Phase 3 reminder emailed to participants.
Dec. 15, 2008	Phase 3 reminder emailed to participants.
Jan. 9, 2009	Union votes to reject administration's latest offer, but few union members vote.
Jan. 19 and 20, 2009	Forced ratification vote on same offer rejected again by union.
Jan. 21, 2009	Provincial government assigns its top mediator to assist in negotiations.
Jan. 24, 2009	Mediator announces two sides cannot agree. Union refuses to submit to binding arbitration.
Jan. 29, 2009	Provincial legislature passes back-to-work legislation.
Feb. 2, 2009	Classes resume.
Feb. 9, 2009	Link for Phase 4 online questionnaire emailed to participants.
Feb. 16, 2009	Phase 4 reminder emailed to participants.
March 1, 2009	Phase 4 reminder emailed to participants.
March 8, 2009	Phase 4 reminder emailed to participants.

the study were used to predict perceived fairness in the post-strike period. The ability to follow trends throughout the course of the labour disruption, and to examine the impact of factors measured before or during the dispute on variables measured subsequently, is a powerful and valuable methodological tool.

However, the longitudinal design of the study also generated a weakness: the rate of attrition was high. The attrition is understandable, given that there were four phases in the study. A comparison of those participants who completed all four phases with those who did not, revealed few and very small differences, even without adopting a more conservative value of significance to account for the multiple comparisons being made. Specifically, completers were in a slightly later year of study (2.15 versus 1.80), were somewhat more likely to live on campus, and were more likely to be in their graduating year. In terms of the pre-strike variables included in the current analysis, completers were slightly more satisfied with their academic program (2.86 versus 2.64) than were non-completers. Thus, the differences among variables in the current study for those who completed all phases of the study versus those who did not were minimal.

Materials

The questionnaires were designed to explore several different research questions. Thus, only those sections of the questionnaires that are relevant to the current analysis will be discussed here.

Dependent variable. Based on a similar question posed in the studies by Greenglass et al. (2002) and Wickens et al. (2006), post-strike fairness was measured in the Phase 4 questionnaire using the following question: “Now that the strike is over, to what extent do you feel that you are being treated fairly in the AFTER-strike period?” Students responded using a 4-point Likert-type scale from 1 (*not at all*) to 4 (*a great deal*).

Independent variables. Table 2 provides a listing of independent variables measured in each phase of the study.

Table 2.
Independent Variables Measured in Each Phase of the Study

Phase 1	Phase 3	Phase 4
Demographics	Satisfaction with academic program	Faculty member to turn to
Gender		Financial concern
Year of study	Faculty member to turn to	Plans affected
Satisfaction with academic program	Opposition to administration's position	Satisfaction with remediation
Faculty member to turn to	Opposition to union's position	

Demographic variables. Students were asked to indicate their gender and year of study in the first phase of the research. These variables were entered as control variables in the analysis.

Satisfaction with academic program. Satisfaction with the academic program was measured before, during, and after the strike. Due to power restrictions related to sample size, only the Phase 1 and 3 measures of satisfaction with the academic program were included in the current analysis. These measures were considered to be the most theoretically relevant to post-strike fairness. This construct was measured with the following question: “How satisfied are you with your overall academic program at York University?” Students responded using a 4-point Likert-type scale from 1 (*not at all satisfied*) to 4 (*very satisfied*).

Faculty member to turn to. Students’ perception that they have a faculty member to turn to for support was also measured in each phase of the study. Based on an item used in previous research (Grayson, 1999), this construct was measured with the following question: “If I have a problem, there is at least one faculty member to whom I can turn for help.” Students responded using a 4-point Likert-type scale from 1 (*strongly disagree*) to 4 (*strongly agree*).

Opposition to administration's and union's positions. Students' attitudes concerning the positions taken by the union and by the university administration during the dispute were also measured in all phases of the study, but only the Phase 3 measure is included in the current analysis. Again, this decision was based on considerations of power and theoretical relevance. By the fifth week of the strike, students should have had enough time to form an opinion about the positions taken by the two opposing parties to the dispute. Opposition to the union's position was measured with the following question: "How do you feel about the position of the teaching assistants and contract faculty in this labour dispute?" Opposition to the administration's position was measured with a similar question: "How do you feel about York University's position (the administration's position) in this labour dispute?" For both items, students responded using a 5-point Likert-type scale from 1 (*strongly support their position*) to 5 (*strongly oppose their position*).

Financial concern. In Phase 4, students rated the extent to which the strike had caused them financial concern on a 4-point Likert-type scale from 1 (*not at all*) to 4 (*a great deal*).

Plans affected. In the post-strike period, the degree to which students' plans had been affected by the strike was measured by five items, each rated on the same Likert-type scale as financial concern. These five items were current employment, future employment, future studies (e.g., law school, graduate school), graduation, and travel plans. Scores on the individual items were summed to create a composite score ($\alpha = .68$), with a higher score indicating a greater degree to which plans were affected by the strike.

Satisfaction with remediation. Students were also asked to rate their overall level of satisfaction with the remediation introduced into their classes in the post-strike period. Students responded using a 5-point Likert-type scale from 1 (*very dissatisfied*) to 5 (*very satisfied*).

In addition to the overall rating of satisfaction with remediation, participants were also asked a series of questions regarding the types of remediation introduced into their courses. Specifically, students were asked three questions: (a) "In those courses where you are *satisfied* with the remediation/the changes made to the course requirements, what changes have been made?" (b) "In those courses where you are *dissatisfied* with the remediation/the changes made to the course requirements, what changes have been made?" and (c) "In those courses where you are *dissatisfied* with the remediation/the changes made to the course requirements, what changes were not made that you think should have been made?" For each item, participants were asked to check off the appropriate form of remediation from a list provided. The remediation list was the same for each question and included the following forms of remediation: reading list shortened, assignment cancelled, assignment shortened/revised, assignment made optional, assignment deadline extended, examination/test/quiz cancelled, examination/test/quiz made optional, examination/test/quiz changed to "take-home" examination/test/quiz, course made pass/fail (as opposed to graded from A+ to F), and deferred standing (assignment deadlines or examination date extended beyond the revised Fall semester). The remediation list was based on the various accommodations offered following previous York University labour strikes, which were studied by the current research team.

PROCEDURE

Participants recruited through the participant pool completed the initial questionnaire online, whereas the remaining participants completed a paper-and-pencil version of the questionnaire. All subsequent phases of the study were performed online. With each new phase of the study, an email containing a link to the survey was sent to each participant. Reminder emails were sent to those participants who failed to respond.

RESULTS

Phase 3 online questionnaires were completed an average of 37 days after the start of the strike ($SD = 5.64$); however, the last Phase 3 questionnaire to be submitted was completed 76 days after the start of the strike. Phase 4 online questionnaires were completed an average of 20 days after the strike had ended ($SD = 10.32$), with the last of these questionnaires submitted 54 days after the strike's conclusion.

Perceived Fair Treatment

Overall, students indicated that they were being treated only somewhat to moderately fairly in the post-strike period ($M = 2.64$, $SD = .77$). This rating was an improvement over their rating of fair treatment in Phase 3 of the study, where the mean score was only 1.32 ($SD = .61$; $t(102) = -13.93$, $p < .001$). After deleting one multivariate outlier and removing missing cases list-wise, 101 participants were retained for analysis.

Means, Standard Deviations, and Inter-Correlations of Independent Variables

Table 3 presents the means, standard deviations, and inter-correlations among the independent variables. As might be expected, there were positive correlations among those variables measured multiple times throughout the course of the study, with significant changes in the variables over time. A paired-sample t -test revealed that satisfaction with the academic program during the strike had declined from its pre-strike levels ($t(107) = 5.79$, $p < .001$). A repeated-measures analysis of variance using a Greenhouse-Geisser correction and pair-wise comparisons of students' reports of having a faculty member to turn to also declined during the strike but returned to pre-strike levels in the post-strike period ($F(1.85, 196.11) = 10.08$, $p < .001$).

Being satisfied with one's academic program before the strike began was negatively associated with opposition to the union's position ($r = -.23$, $p = .011$), but not with the administration's position, during the dispute. The measurement of satisfaction with academic program during the strike was negatively associated with opposition to the positions of both the union ($r = -.18$, $p = .04$) and the administration ($r = -.18$, $p = .04$) during the dispute, indicating that those who were satisfied with their academic programs were less opposed to the actions of both the union and the administration. Satisfaction with one's academic program during the strike was also positively correlated with having a faculty member to turn to in the post-strike period ($r = .25$, $p = .006$) and negatively correlated with having one's plans affected in the post-strike period ($r = -.19$, $p = .027$). Being opposed to the administration's position during the strike was negatively correlated with

Table 3.
Means, Standard Deviations, and Inter-Correlations of Criterion and Predictor Variables

Criterion variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Post-strike (Phase 4) perceived fairness	-										
Phase 1: Predictor variables											
2. Satisfaction with academic program	.37***	-									
3. Faculty member to turn to	.27**	.10	-								
Phase 3: Predictor variables											
4. Satisfaction with academic program	.33***	.36***	.13	-							
5. Faculty member to turn to	.25**	.04	.18*	.15	-						
6. Opposition to administration's position	-.10	.01	.04	-.18*	-.12	-					
7. Opposition to union's position	-.09	-.23*	.00	-.18*	-.14	-.22*	-				
Phase 4: Predictor variables											
8. Faculty member to turn to	.39***	.03	.25**	.25**	.48***	-.07	-.21*	-			
9. Financial concern	-.29**	-.04	-.07	-.12	-.03	-.11	.09	-.13*	-		
10. Plans affected	-.38***	-.14	-.11	-.19*	-.02	-.03	.11	-.10	.62***	-	
11. Satisfaction with remediation	.40***	-.08	.16	.12	.03	-.22*	.20*	.11	-.34***	-.19*	-
Mean	2.65	2.90	2.34	2.46	1.97	3.00	3.53	2.45	2.92	12.17	3.39
SD	.77	.69	.94	.83	.98	1.03	1.07	.85	1.02	3.86	1.11

* p < .05 ** p < .01 *** p < .001

opposition to the union's position ($r = -.22, p = .015$). It was also negatively correlated with satisfaction with remediation ($r = -.22, p = .014$), indicating that opposition to the administration's actions during the dispute was associated with less satisfaction with the administration's subsequent handling of the post-strike period. Opposition to the union's position during the dispute was associated with greater satisfaction with the administration's subsequent handling of the post-strike period ($r = .20, p = .021$). Opposition to the union's position was also associated with not having a faculty member to turn to in the post-strike period ($r = -.21, p = .018$). The more students' plans were affected by the strike, the more financial concern they reported ($r = .62, p < .001$) and the less satisfied they were with remediation ($r = -.19, p = .027$). The degree to which students' plans were affected by the strike was combined into a single measure for the purposes of the regression analysis. The average scores for the individual items revealed that plans for travel were most affected ($M = 3.00, SD = 1.16$) and plans for graduation were least affected ($M = 1.90, SD = 1.16$). Current jobs ($M = 2.32, SD = 1.08$), future jobs ($M = 2.79, SD = 1.13$), and future schooling ($M = 2.09, SD = 1.12$) fell between the two.

Hierarchical Linear Regression

A hierarchical linear regression predicting perceived fairness in the post-strike period was conducted using SPSS 15. Collinearity diagnostics including tolerance scores, variance inflation factors, variance proportions, and condition indices were used to assess multicollinearity. These markers in the current regression analysis were generally indicative of an absence of multicollinearity (see Field, 2005; Tabachnick & Fidell, 2001). Gender and year of study were controlled in the analysis by entering them in the first block. Phase 1 pre-strike variables were entered in the second block, Phase 3 during-strike variables were entered in the third block, and Phase 4 post-strike variables were entered in the final block. The final model is presented in Table 4. Gender and year of study did not contribute to perceived fairness in the post-strike period. Pre-strike satisfaction with academic program, having a faculty member to turn to in the post-strike period, and satisfaction with remediation all contributed significantly to perceived post-strike fairness. The degree to which students' plans had been affected by the strike was also negatively associated with perceived fairness in the post-strike period. Overall, the model accounted for 45% of the variance in perceived fairness.

Course Remediation Preferences

On average, students reported having been registered in 4.41 courses (full-year or half-year, $SD = 1.03$) in the semester in which the strike began. They also reported being satisfied with remediation in an average of 2.67 courses ($SD = 1.53$) but dissatisfied with remediation in an average of 1.12 courses ($SD = 1.20$). Table 5 provides the percentage of students receiving each form of remediation in courses where students were satisfied and in courses where students were dissatisfied with remediation. Table 5 also provides the percentage of students in courses where remediation was not satisfying who would have wanted each form of remediation offered in that course. Based on the percentage of students who reported having received each form of remediation in both "satisfying" and "dissatisfying" courses, it appears that a shortened reading list was the most common adjustment. Fifty-nine percent of students reported having their reading list shortened in at least one course where they were satisfied with remediation. Thirty-three percent

Table 4.

Final Regression Model Predicting Post-Strike Perception of Fair Treatment

	Unstandardized		Standardized		
	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>R</i> ² change
Block 1: Demographics					
Gender (1 = male, 2 = female)	.154	.135	.092	1.147	
Year of study	-.016	.048	-.029	-.332	.013
Block 2: Phase 1 variables					
Satisfaction with academic program	.388	.095	.346	4.086***	
Faculty member to turn to	.061	.068	.075	.897	.194***
Block 3: Phase 3 variables					
Satisfaction with academic program	.019	.084	.021	.228	
Faculty member to turn to	.066	.067	.085	.986	
Opposition to administration's position	-.010	.062	-.014	-.168	
Opposition to union's position	-.004	.061	-.005	-.059	.070
Block 4: Phase 4 variables					
Faculty member to turn to	.231	.081	.257	2.858**	
Financial concern	.022	.076	.029	.289	
Plans affected	-.045	.020	-.228	-2.273*	
Satisfaction with remediation	.244	.060	.355	4.102***	.236***

$F = 7.709$, $p < .001$, Adjusted $R^2 = .446$,

* $p < .05$ ** $p < .01$ *** $p < .001$

of students reported having their reading list shortened in at least one course where they were dissatisfied with remediation. The next most common forms of remediation were extensions of assignment deadlines (52% in courses with satisfying remediation and 27% in courses with dissatisfying remediation) and cancellation of examinations/tests/quizzes (42% in courses with satisfying remediation and 15% in courses with dissatisfying remediation). The most commonly reported course remediations that were desired by dissatisfied students but not offered to them were shortening the reading list (32%), shortening or revising an assignment (32%), having an examination/test/quiz made "take-home" (26%), extending an assignment deadline (21%), and cancelling an examination/test/quiz (21%). The least commonly received forms of remediation were making a course pass/fail (only 4% in courses with satisfying remediation and only 6% in courses with dissatisfying remediation) and deferred standing [i.e., an incomplete grade] (13% in courses with satisfying remediation and 9% in courses with dissatisfying remediation). These same forms of remediation were also the least commonly wanted by students dissatisfied with remediation in their course(s) (8% for making a course pass/fail and 12% for deferred standing).

Table 5.

Percentage of Students Experiencing Each Form of Remediation as a Function of Satisfaction Versus Dissatisfaction, or Wanting Each Form of Remediation Where Dissatisfied

	Courses where students were satisfied with remediation (<i>n</i> = 102)	Courses where students were dissatisfied with remediation (<i>n</i> = 66)	
	Remediation experienced	Remediation experienced	Remediation wanted
Reading list shortened	58.5	32.8	31.8
Assignment cancelled	36.3	12.1	18.2
Assignment shortened/revised	27.5	6.1	31.8
Assignment made optional	23.5	4.5	19.7
Assignment deadline extended	52.0	27.3	21.2
Examination/test/quiz cancelled	42.2	15.2	21.2
Examination/test/quiz made optional	23.5	13.6	18.2
Examination/test/quiz made "take-home"	23.5	10.6	25.8
Course made pass/fail	3.9	6.1	7.6
Deferred standing	12.7	9.1	12.1

DISCUSSION

Before the strike, students were somewhat to moderately satisfied with their overall academic program. The average response to the question of whether or not they had a faculty member to turn to fell between 3 (*somewhat agree*) and 2 (*somewhat disagree*), indicating a mixed experience among students. This finding should not be surprising in light of the 2010 results of the *National Survey of Student Engagement* which reported that 41–44% of students at research universities such as York University never discuss ideas with faculty outside of class and that 36–37% never work with faculty on a research project outside of class.

The 12-week strike had a negative psychosocial impact on students. During the dispute, undergraduates' satisfaction with their academic program declined, as did their sense of having a faculty member to turn to for assistance. In the aftermath of the strike, students reported that the dispute had caused them moderate financial concern. Students' plans had been somewhat to moderately affected by the dispute. Their plans for travel were the most affected, likely because the winter break was cancelled and the winter semester was extended into the summer term. Plans for graduation were the least affected, which is consistent with the fact that only 26 students in this sample identified themselves as being in their graduating year.

Although undergraduates were not particularly satisfied with the remediation measures introduced, they did express some degree of satisfaction in their overall ratings of remediation. Moreover, the number of courses in which they were satisfied with remediation outnumbered the courses in which they were dissatisfied. As well, the sense of having a faculty member to turn to for assistance returned to pre-strike levels. Overall, students felt that they received somewhat to moderately fair treatment in the post-strike period, which is a relatively positive outcome following a lengthy university strike.

Interestingly, the results of the regression analysis indicated that students' perception of fair treatment was not related to students' opposition to the university administration or the union, nor was it related to the degree of financial difficulty students experienced as a result of the strike. Rather, undergraduates' perception of fair treatment was related to their satisfaction with their academic program *prior to* the strike, their sense of having a faculty member to turn to in the post-strike period, the degree to which the strike affected their plans, and their overall level of satisfaction with remediation. Ultimately, students' perception of fair treatment was associated with how the university and faculty related to the students and managed their concerns in the post-strike period. Specifically, if undergraduates were generally satisfied with their academic programs before the strike, this satisfaction contributed to a greater sense of fair treatment after the strike. Having their plans for employment, education, and travel affected by the strike reduced their sense of fair treatment after the strike. Having a faculty member to turn to after the strike and being satisfied with remediation increased perceived fairness in the post-strike period.

An examination of the forms of remediation students experienced and how they felt about these changes revealed that a shortened reading list, an extended deadline for assignments, and the cancellation of an examination/test/quiz were among the most common forms of remediation. Grading on a pass/fail basis and the option of deferred standing were the least common forms of remediation offered to students. In courses where students were dissatisfied with remediation, students indicated that shortening the reading list, shortening or revising an assignment, having an examination/test/quiz made "take-home," extending an assignment deadline, and cancelling an examination/test/quiz would have increased their level of satisfaction with remediation. Making a course pass/fail and deferred standing were the least requested forms of remediation in courses where students were dissatisfied.

Implications and Recommendations for Dealing with Academic Strikes

The results of this study have several implications. First, it is clear that undergraduates are negatively affected by a labour strike. Students in a labour dispute are subject to uncertainty and inconvenience associated with forced changes to their plans for employment, travel, and future education, and they experience financial strain.

Second, the data presented provide information on interventions that universities can implement to minimize the impact of a strike on their students. At the faculty level, it is clear that professors who are accessible and approachable are contributing to their students' satisfaction with their academic experience and to the healing process in a post-strike period. The association between approachable faculty and perception of fair treatment following a strike may be limited to large urban universities, where faculty-student ratios are much higher and faculty attention to individual student needs may be

less common and more highly valued. Nonetheless, accessible and approachable faculty are a worthwhile goal for any post-secondary institution.

Ensuring that remediation in the post-strike period meets students' needs is another important step in the healing process. For the current sample of undergraduates, shortened reading lists, extended assignment deadlines, and the cancellation of examinations/tests/quizzes were commonly reported in classes where students were satisfied with remediation and were often requested in classes where students were dissatisfied with remediation. Given the diversity in undergraduates' likes and dislikes of the various forms of remediation, university administrations should consider offering students a wide variety of remediation options so that students can select the option that benefits them most. Remediation is a difficult balance between assuring students that their grades will not be negatively affected by the strike and ensuring that grades still reflect the quality of the students' performance relative to his/her peers so that the students' education is not compromised. Post-strike university policy should allow for the widest diversity of remediation options possible, and faculty should strive to achieve the delicate balance between delivering the educational material needed by students and minimizing students' stress over workload and grades in the post-strike period. By doing so, educators will be maximizing students' perception of fair treatment in the wake of the labour disruption, which is imperative to rebuilding a positive relationship between students and the university.

Finally, universities should take whatever action possible to minimize the impact of a strike on students' plans for employment, education, and travel. Although uncertainty is an inherent part of any labour disruption, university administrations need to be forthcoming with current updates about the status of negotiations and the provision of contingency plans. This approach would help students to make informed decisions regarding plans for employment and travel. University administrations should also be willing to liaise with other universities to which students may have applied for subsequent programs (e.g., graduate and professional schools), which may help to reduce the impact of the strike on students' future educational plans.

Limitations of the Research

It is important to note some of this study's weaknesses. First, the study relied exclusively on self-report data. Conducting research on reactions to real-world events is already a difficult endeavour, as real-time events are inherently unpredictable. Researchers will need to be particularly creative when examining the impact of strikes on students by devising alternative methods that do not rely on self-report measures. Wickens et al. (2006) tried, with only limited success, to access archival data to examine the changes in students' behaviours throughout a university strike. Future researchers may also consider introducing behavioural measures into the laboratory in the post-strike period. Again, such an approach would require significant creativity. (For example, participants in a study could be asked to respond to inquiries about the university from alleged high school students who are considering applying for admission. This behavioural measure may provide a more reliable assessment of students' opinions of the university in the post-strike period.) Although extra efforts to implement behavioural measures would be needed, they would likely be well rewarded. Finally, the current study relied on several single-item measures. It is possible that these items are not measuring exactly what they

are intended to measure. Thus, future research should consider the inclusion of multiple-item measures to allow for the assessment of each measure's reliability.

CONCLUSION

The current study was a longitudinal analysis of the factors that contributed to students' perception of fair treatment following a lengthy university strike. There is a general paucity of research examining students' experiences of a university labour disruption and, with few exceptions (e.g., Albas & Albas, 2000; Grayson, 1997a, 1997b, 1997c, 1999), longitudinal research has been particularly rare. With the increasing rates of unionization on both American and Canadian campuses (DeCew, 2003; Katz & Casale, 2006; Rees, Kumar, & Fisher, 1995; Rhoads & Rhoades, 2005; Smallwood, 2001; Zinni, Singh, & MacLennan, 2005), it is an issue that is likely to become even more relevant in the years to come. Results of the current study highlight the value of accessible and approachable faculty as well as the importance of efforts by the administration in the event of a strike to minimize the impact of the dispute on students. Such efforts should include extensive options for remediation of courses in the post-strike period. ♦

NOTES

1. For the purposes of the current study, the term *faculty* refers to instructors and not to an administrative body of the university.
2. Response rates may be underestimated for two reasons. First, emails containing the survey links may have been delivered to spam folders, making it unlikely that participants read them. Second, handwritten email addresses from the non-participant-pool group in Phase 1 were often difficult to interpret. It is possible that survey links were sent to incorrect but valid addresses, and the intended recipient therefore did not receive the email.

REFERENCES

- Adams, J. S. (1965). Equity in social exchange. *Advances in Experimental Social Psychology*, 62, 335–343.
- Albas, D., & Albas, C. (2000). *Tertius dolens*: The student experience of the University of Manitoba Faculty Association strike. *Canadian Review of Sociology and Anthropology*, 37, 461–483.
- Amos, M., Day, V. H., & Power, E. (1993). Student reactions to a faculty strike. *Canadian Journal of Higher Education*, 33, 86–103.
- Barling, J., & Milligan, J. (1987). Some psychological consequences of striking: A six month, longitudinal study. *Journal of Occupational Behaviour*, 8, 127–138.
- Blau, P. M. (1964). *Exchange and power in social life*. New York, NY: Wiley.
- Bluen, S. D., & Barling, J. (1988). Psychological stressors associated with industrial relations. In C. L. Copper and R. Payne (Eds.), *Causes, coping and consequences of stress at work* (pp. 175–202). Toronto, ON: Wiley.
- Canadian Union of Public Employees 3903. (2008a, September 7). Update on bargaining: September 7, 2008. *On the Frontlines*, 1(3), 1.

Canadian Union of Public Employees 3903. (2008b, December 2). What's the deal? Bargaining update. *On the Picket Lines*, 7, 1.

DeCew, J. W. (2003). *Unionization in the academy: Visions and realities*. New York, NY: Rowman & Littlefield.

Dickerson, S. S., & Kemeny, M. E. (2004). Acute stressors and cortisol responses: A theoretical integration and synthesis of laboratory research. *Psychological Bulletin*, 130, 355–391.

Field, A. (2005). *Discovering statistics using SPSS*. Thousand Oaks, CA: Sage.

Fowler, J. L., Gudmundsson, A. J., & Whicker, L. M. (2009). The psychological impact of industrial strikes: Does involvement in union activity during strikes make a difference? *Journal of Industrial Relations*, 51, 227–243.

Grayson, J. P. (1997a). *Student support for a faculty strike*. Toronto, ON: York University, Institute for Social Research.

Grayson, J. P. (1997b). *The strike from the students' viewpoint*. Toronto, ON: York University, Institute for Social Research.

Grayson, J. P. (1997c). *Follow-up survey of strike impact*. Toronto, ON: York University, Institute for Social Research.

Grayson, J. P. (1999). Student hardship and support for a faculty strike. *Research in Higher Education*, 40, 589–611.

Greenberg, J. (1987). A taxonomy of organizational justice theories. *Academy of Management Review*, 12, 9–22.

Greenglass, E. R., Fiksenbaum, L., & Burke, R. J. (1996). Components of social support, buffering effects and burnout: Implications for psychological functioning. *Anxiety, Stress, and Coping: An International Journal*, 9, 185–197.

Greenglass, E. R., Fiksenbaum, L., Goldstein, L., & Desiato, C. (2002). Stressful effects of a university faculty strike on students: Implications for coping. *Interchange*, 33, 261–279.

Katz, R., & Casale, D. (2006). Professionalism, inclusiveness, and accountability in collective bargaining. In E. Benjamin & M. Mauer (Eds.), *Academic collective bargaining* (pp. 292–300). New York, NY: Modern Language Association of America.

Kumar, P., & Schenk, C. (2006). *Paths to union renewal: Canadian experiences*. Peterborough, ON: Broadview Press.

Lerner, M. J. (1980). *The belief in a just world: A fundamental delusion*. New York, NY: Plenum Press.

MacBride, A., Lancee, W., & Freeman, S. J. J. (1981). The psychosocial impact of a labour dispute. *Journal of Occupational Psychology*, 54, 125–133.

National Survey of Student Engagement. (2010). *Major differences: Examining student engagement by field of study—annual results 2010*. Bloomington, IN: Indiana University Center for Postsecondary Research.

Rees, D. I., Kumar, P., & Fisher, D. W. (1995). The salary effect of faculty unionism in Canada. *Industrial and Labor Relations Review*, 48, 441–451.

Rhoads, R. A., & Rhoades, G. (2005). Graduate employee unionization as symbol of and challenge to the corporatization of U.S. research universities. *Journal of Higher Education, 76*, 243–275.

Roseborough, J., Wiesenhal, D. L., Flett, G. L., & Cribbie, R. A. (2011, May). The belief in an unjust world and narcissism – the influence of personality on perceptions of injustice, driving anger, and aggressive driving. *Proceedings of the 21st Canadian Multidisciplinary Road Safety Conference, Halifax, Nova Scotia, Canada*. Retrieved from http://www.carsp.ca/uploaded_files/fck/File/CMRSC%20Proceedings/2011_CMRSX_XI_Halifax/Presentations/7A%20James%20Roseborough.pdf

Smallwood, S. (2001, July 6). Success and new hurdles for T.A. unions. *The Chronicle of Higher Education, 47*, A10–A12.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Toronto, ON: Allyn and Bacon.

Thompson, S. C. (1981). Will it hurt less if I can control it? A complex answer to a simple question. *Psychological Bulletin, 90*, 89–101.

Vispo, R. H., & Shine, D. (1985). Strike and stress in a maximum security hospital. *Psychiatric Quarterly, 57*, 111–120.

Wayne, S. J., Shore, L. M., Bommer, W. H., & Tetrick, L. E. (2002). The role of fair treatment and rewards in perceptions of organizational support and leader-member exchange. *Journal of Applied Psychology, 87*, 590–598.

Wickens, C. M. (2011). The academic and psychosocial impact of labor unions and strikes on university campuses. In M. E. Poulsen (Ed.), *Higher education: Teaching, internationalization and student issues* (pp. 107–133). Hauppauge, NY: Nova Science.

Wickens, C. M., Fiksenbaum, L. M., Greenglass, E. R., & Wiesenhal, D. L. (2006). Student stress and coping following a university strike in Canada. *Journal of Collective Negotiations, 31*, 1–19.

Wickens, C. M., Fiksenbaum, L. M., Wiesenhal, D. L., & Greenglass, E. R. (2012). *Effects of a labor dispute on university students: A longitudinal perspective*. Manuscript submitted for publication.

Wickens, C. M., Wiesenhal, D. L., Flora, D. B., & Flett, G. L. (2011). Understanding driver anger and aggression: Attributional theory in the driving environment. *Journal of Experimental Psychology: Applied, 17*, 354–370.

Zinni, D. M., Singh, P., & MacLennan, A. F. (2005). An exploratory study of graduate student unions in Canada. *Industrial Relations, 60*, 145–176.

CONTACT INFORMATION

Lisa Fiksenbaum
Behavioural Sciences Building
York University
4700 Keele Street
Toronto ON M3J 1P3 Canada
lisafix@yorku.ca

Lisa M. Fiksenbaum received her doctoral degree in social and personality psychology at York University in Toronto, Canada. Her research interests include organizational issues, work-family relationships, stress and coping, the effects of the 2008 economic recession, and advanced statistical techniques. She serves as a statistical consultant at the Institute for Social Research at York University. She has been involved in several research projects based at the Hincks-Dellcrest Centre, Psychological Corporation, Statistics Canada, and the Ontario Ministries of Education, Health, and Community and Social Services. She has published widely and has presented her work at both national and international meetings.

Christine M. Wickens received her doctoral degree in social and personality psychology from York University in Toronto, Canada. She received post-doctoral fellowships from both the Social Sciences and Humanities Research Council of Canada (SSHRC) and the Centre for Addiction and Mental Health (CAMH). She is currently a post-doctoral fellow at CAMH. She has published extensively in edited books and peer-reviewed journals, and presented her work at both national and international conferences. Her primary research interests address the psychology of driver behaviour including driver stress, aggression, and impaired driving.

Esther R. Greenglass is professor of psychology at York University, Toronto, Canada. Her areas of research include health psychology, positive psychology, stress and coping, and more recently, economic psychology. She has published several book chapters and refereed journal articles and has given invited talks to academic audiences all over the world. She recently served as president of the Division of Health Psychology of the International Association of Applied Psychology (IAAP).

David L. Wiesenthal received his doctoral degree in social psychology from the State University of New York at Buffalo and was a post-doctoral fellow at York University where he is currently a professor in the Department of Psychology. He is the co-editor of *Contemporary Issues in Road User Behavior and Traffic Safety* (2005) and has over 200 book chapters, journal articles, and conference presentations. He has been a visiting professor at the Hebrew University of Jerusalem and has lectured at the National Road and Traffic Research Institute (Linköping, Sweden), the University of Linköping, the University of Umeå, Lund University, and Stockholm University.

ACKNOWLEDGEMENTS

The authors wish to thank Azadeh Houshmand, Lisa Hilliard, Maryum Khokhar, Karmypaul Singh, and Michele Lustman for their assistance with participant recruitment, data entry, and various other research tasks. The authors would also like to thank two anonymous reviewers for their insightful comments on a previous draft of this manuscript. Dr. Wickens was supported by a SSHRC Post-Doctoral Fellowship during the latter stages of this research.